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WHAT DETERMINES CALIFORNIA RAISIN SALES

A preliminary report based on

an analysis of data for the crop years, 1921-1929

S. W. Shear and R. M. Howe

November, 1930

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Foreword and Acknowledgements

This preliminary analysis of the factors affecting California raisin sales was made by the Giannini Foundation at the request of the Federal Farm Board and with its financial cooperation. Its purpose is to make available and to interpret certain fundamental facts needed by the California Grape Control Board and its subsidiary, the California Raisin Pool, and others interested in, and responsible for California's raisin marketing program. The major facts and conclusions were presented to the Directors of the California Raisin Pool in Fresno on July 31, 1930.

It has been possible to present many of the most important California data included only because of the generous cooperation of the Sun-Maid Raisin Growers Association and the independent packers acting through the Dried Fruit Association of California. The authors are also indebted to the following persons for generous assistance in the preparation of this report: Dr. Holbrook Working and Dr. Alonzo E. Taylor of the Food Research Institute at Stanford University, Dr. E. W. Gaumnitz of the Division of Markets of the California State Department of Agriculture, Professor Donald Sham of Santa Clara University, and Messrs. L. A. Wheeler of the U.S. Bureau of Agricultural Economics, R. S. Hollingshead of the U.S. Bureau of Foreign and Domestic Commerce, M. E. Brooding of the California Packing Corporation, K. R. Richardson, formerly with the Sun-Maid Raisin Growers Association.

The study was made under the general supervision of Professor H. R. Tolley, Assistant Director of the Giannini Foundation. Other members of the staff of the Foundation and of the Division of Agricultural Economics who have been helpful in its preparation are Dr. H. R. Wellman, Dr. H. E. Erdman, and Messrs. E. W. Braun, L. D. Mallory and S. R. Smith.

WHAT DETERMINES CALIFORNIA RAISIN SALES

A preliminary report based on
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S. W. Shear[1] and R. M. Howe[2]

How many California raisins have been sold annually during the last nine years in the domestic and in foreign markets and at what prices? Through the cooperation of the independent packers and of the Sun-Maid Raisin Growers Association these data are herewith made available to the industry for the first time. Together with other data, they have been used as the basis for the present analysis of the factors that have determined the quantities of California raisins sold in the domestic and in foreign markets in recent years. Although this analysis explains only what has occurred in the past, much of its value lies in the help it can give the industry in judging how many thousands of tons of raisins California can reasonably expect to sell in the future in the domestic and foreign markets at different prices.

ANNUAL CALIFORNIA RAISIN SALES

The big increase in California raisin production since the war was accompanied until 1929 by a rapid and steady growth in the tonnage sold for domestic and foreign consumption. During the same period, as figure 1 indicates, the industry experienced drastic price declines. Between 1921 and 1928 California raisin sales to the trade nearly doubled, rising from 155,000 short tons to 290,000. The carryover as given in table 3, together with the fact that about 100,000 tons, mostly of the 1923 crop, were utilized as by-products, shows why the annual changes in the raisin tonnage sold for human consumption indicated in figure 1 have not corresponded with the variations in production shown in figure 2.

Thompson and Muscat Supply and Price Changes.- Since adequate data are not available on annual sales by variety, the percentage of production by varieties, as shown in table 2, gives the best clue to changes in their relative importance. However, in order to visualize changes in the quantity sold by varieties, the carryover data by varieties, shown in table 3, must also be considered, as well as the fact that a majority of the by-products made from the 1923 crop surplus utilized Thompson Seedless. The rapid increase in the proportion of Thompson Seedless raisins from 49 per cent in 1921 to 74 per cent in 1929 and the corresponding decline in Muscat production from 39 to 20 per cent of total dried output of the state, helps to explain the fact that since 1925 the f.o.b. price of Muscats, as shown in table 4, has been higher than for Thompson Seedless. For at least fifteen years previous to 1925, prices and returns per acre for Thompson Seedless raisins were usually substantially higher than for Muscats. The greater returns from Thompson Seedless raisins during that period largely accounts for the tremendous increase in the production of this variety in California during the last twenty years, finally resulting in its adverse price differential as compared with Muscat prices.

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Table 1. Completed Sales of California Raisins by Chief Countries, 1921-1929 *

Year beginning Sept. 1	Grand total	Domestic			Exports			
		Total, U.S. and Canada	United States	Canada	Total		United Kingdom	Other countries
					Including Canada	Excluding Canada		
	Nearest hundred short tons, sweat-box basis *							
	1	2	3	4	5	6	7	8
1921	155,000	139,700	125,200	14,500	29,800	15,300	11,000	4,300
1922	190,000	153,500	135,000	18,500	55,000	36,500	20,400	16,000
1923	195,000	168,400	149,400	19,000	45,600	26,600	8,300	18,300
1924	220,000	187,600	167,600	20,000	53,000	32,400	14,800	17,600
1925	240,000	185,300	168,000	17,300	72,000	54,700	23,800	30,900
1926	245,000	182,400	162,300	20,100	82,700	62,600	28,500	34,100
1927	285,000	199,600	178,000	21,600	107,000	85,400	37,700	47,700
1928	290,000	193,400	171,000	22,400	119,000	96,600	37,000	59,600
1929	215,000	167,500	154,400	13,100	60,600	47,500	16,800	30,700
1930								
	Percentage of grand total							
1921	100.0	90.1	80.8	9.3	19.2	9.9	7.1	2.8
1922	100.0	80.8	71.1	9.7	28.9	19.2	10.7	8.5
1923	100.0	86.4	76.6	9.8	23.4	13.6	4.3	9.3
1924	100.0	85.3	76.2	9.1	23.8	14.7	6.7	8.0
1925	100.0	77.2	70.0	7.2	30.0	22.8	9.9	12.9
1926	100.0	74.4	66.2	8.2	33.8	25.6	11.7	13.9
1927	100.0	70.0	62.4	7.6	37.6	30.0	13.2	16.8
1928	100.0	66.7	59.0	7.7	41.0	33.3	12.8	20.5
1929	100.0	77.9	71.8	6.1	28.2	22.1	7.8	14.3
1930								

*Sales have been converted to a sweat-box basis by multiplying the net weight of packed raisins as sold by 1.08 or the gross shipping weight as reported by the carriers by .933. Sales through by-products channels and to other packers are excluded from these data.

Sources of data:

Col. 1. Total sales are based largely upon records of shipments of raisins from California by rail and intercoastal water as reported by carriers and by direct export to foreign countries from the San Francisco and the Los Angeles customs districts plus an estimated per-capita consumption for California equal to that in the rest of the United States. Reported shipments, however, have been checked against completed sales compiled by the Giannini Foundation from records of the Sun-Maid Raisin Growers Association and summarized sales of other raisin packers furnished by the Dried Fruit Association of California through the cooperation of its members.

Col. 2. Sum of items for corresponding years in Cols. 3 and 4.

Col. 3. Items in Col. 1 minus the items for corresponding years in Col. 5.

Cols. 4 to 8 inclusive. Compiled from U. S. Monthly Summary of Foreign Commerce. Net weight converted to approximate sweat-box basis by multiplying by 1.08.

Table 2. Percentage of California Raisin Production by Varieties, 1921-1929

Crop Years	Total	Thompson Seedless	Muscat	Sultana	Others*
1921	100.0	49.1	38.8	8.9	3.2
1922	100.0	55.6	34.8	7.4	2.2
1923	100.0	60.7	30.6	7.5	1.2
1924	100.0	64.8	27.4	7.0	0.8
1925	100.0	77.0	14.9	6.4	1.7
1926	100.0	69.3	22.8	5.8	2.1
1927	100.0	71.4	22.0	5.2	1.4
1928	100.0	79.5	13.0	5.3	2.2
1929	100.0	73.7	20.3	4.3	1.7

* "Others" may include some soda and oil-dipped Sultanas and Thompson Seedless.

Source of data:
Computed from the total of Sun-Maid and packer receipts by variety as reported to the Giannini Foundation.

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Table 3. Unshipped Stocks of California Raisins in the Hands of Sun-Maid and Independent Packers on September First, Sold and Unsold, Short Tons, Sweat-Box Basis, 1921-1930*.

Year	Total	Thompson Seedless	Muscat	Other varieties
1921	36,000	5,200	22,600	8,200
1922	34,000	9,400	19,500	5,100
1923	86,000	40,900	40,300	4,800
1924	186,000	107,300	64,500	16,200
1925	67,000	37,400	20,600	9,000
1926	59,000	48,500	3,600	6,900
1927	108,000	81,400	15,400	11,200
1928	124,000	91,700	28,700	3,600
1929	92,000	73,800	11,000	7,200
1930*	92,000*	67,000*	15,000*	5,000*

Source of data:
Compiled from records of the Sun-Maid Raisin Growers Association and summarized data of other raisin packers furnished by the Dried Fruit Association through the cooperation of its members. Ninety-five per cent or more of the stocks of California raisins are accounted for by this table.

*An actual inventory of 117,000 tons of raisins on May 31, 1930 was reported of which about 85,300 tons (73 per cent) were Thompson Seedless, 23,000 tons (20 per cent) Muscats, and 8,700 tons (7 per cent) other varieties, largely Sultanas. The inventory total as given for September first, 1930 was calculated as explained below and by varieties by applying the May 31 percentage variety distribution to this total.

The carryover from the 1928 crop on September 1, 1929 was 92,000 tons. Mimeographed release No. 1245, June 7, 1930 of the Dried Fruit Association of California shows actual receipts of 1929 crop raisins from growers by Sun-Maid and the independent packers up to about the last of April of 215,000 tons. Completed and shipped sales from September 1, 1929 to August 31, 1930, were 215,000 tons, the same as receipts. Hence unshipped stocks in the hands of the packing industry on September 1, 1930, appear to have been at least 92,000 tons. They may have been slightly larger, since packers estimate that growers held between five and ten thousand tons of unsold raisins at the time the packing industry reported receipts of 215,000 tons this spring.

Figure 1. Net F.O.B. Price and Quantity, Sweat Box Basis, of California Raisin Sales, 1921-1929

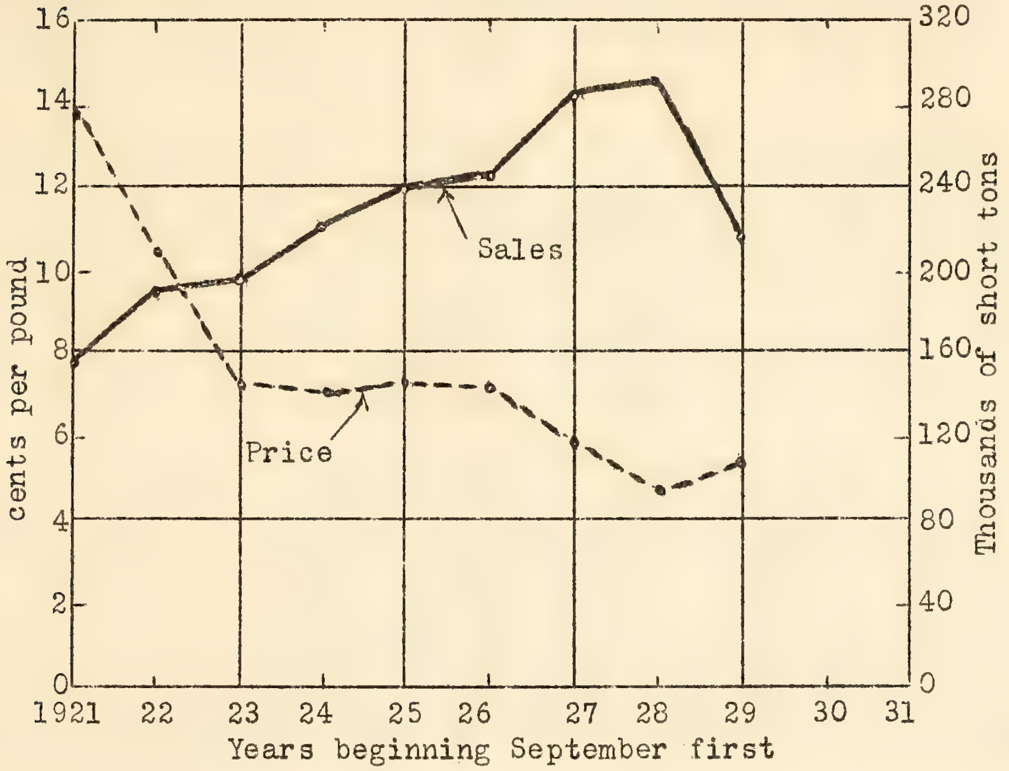
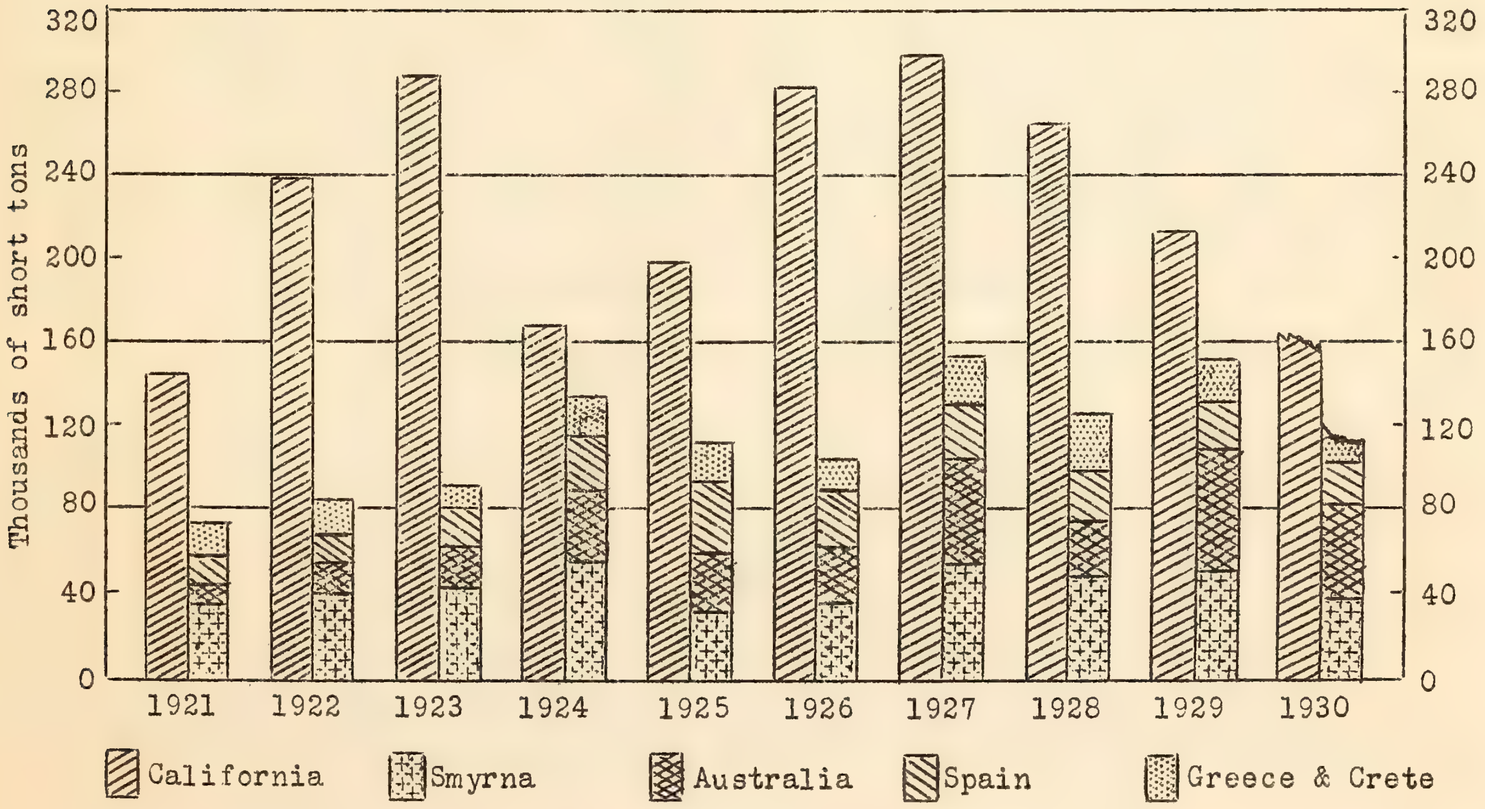


Figure 2. World Raisin Production by Countries, 1921-1930



PRICE CHANGES

Figure 1 shows not only the big increase in California raisin sales since the war but the great decline in f.o.b. prices. The extreme decline from 14 cents in 1921 to 7.3 cents in 1923 reflects the artificially high raisin prices of 1921, the moderately adverse business conditions of 1923, the tremendous state crop of that year, and the competition of low foreign prices.

Expansion of the total tonnage sold between 1923 and 1926, while average prices remained practically on a level, reflects our increased export sales which were stimulated by rising prices of raisins from other countries, particularly in 1925 and 1926, while our export prices were declining. Increased foreign demand, resulting largely from Sun-Maid's foreign sales campaign, has also helped to expand export tonnage since 1923. To maintain the average level of prices from 1923 to 1926, however, required considerable by-product utilization, largely from the bumper crop of 1923, and resulted in undesirably large carryovers (see table 3).

In spite of the bumper crop of 1926, California prices were maintained and sales as a result expanded but slightly. With a very large carryover at the end of the season and another bumper crop in 1927 prices were reduced to a 5.9 cent average for the season. The price-cut, however, was not drastic enough to sell the available raisin tonnage, for when the large 1928 crop was dried a huge tonnage of the 1927 harvest was still on hand. When these facts and their possible effect on the Sun-Maid Raisin Growers Association became generally known, California raisin prices declined to a very low level averaging about 4.7 cents for the season of 1928 as a whole. The low prices stimulated the sale of the largest tonnage of California raisins ever sold in a single year.

In spite of this fact, however, the carryover of 1928 raisins on September first, 1929 was so large that even with a small 1929 crop, available supplies were greater than the large tonnage sold in the 1928 marketing year. In the face of these supplies, however, and the large foreign crop, which brought about drastic reductions in Australian prices in the United Kingdom, and generally depressed business conditions both at home and abroad, the price of California raisins was raised in the summer of 1929 averaging about 5.4 for the season as a whole. Although the price was relatively low, the tonnage sold was indeed very discouraging. Only 215,000 tons were disposed of, or practically the equivalent of the 1929 crop, still leaving an inventory of about 92,000 tons of old raisins on hand in the state on September first, 1930, to handicap the present marketing season.*

RELATION OF DOMESTIC SALES TO PRICES

Figure 1 has already shown that prices of California raisins have been low when the tonnage sold was large. Figure 3 gives a more direct picture of the fact that high prices are associated with small consumption and low prices with large consumption, or in other words, that price is normally one of the most important factors determining the quantity of raisins consumed in the domestic market (United States and Canada). This chart, known as a scatter diagram, is used because it is the simplest way to show how much prices have had to be reduced in the past in order to increase the tonnage sold by any given amount. Each black dot in this figure indicates the relation between the tonnage of California raisins sold in the domestic market and the average f.o.b. price at which it was sold during the crop

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* See table 3 and footnote for details regarding the carryover situation on September first, 1930.

Table 4. California F.O.B.-Rail Raisin Prices, 1921-1929
(Dollars per net packed short ton)

Year beginning Sept. 1	Total, domestic and foreign sales			Total, all varieties	
	Grand total	Thompson Seedless (natural)	Muscats	Domestic sales	Foreign sales
	Dollars 1	Dollars 2	Dollars 3	Dollars 4	Dollars 5
1921	280	*	*	280	270
1922	210	*	*	210	200
1923	146	*	*	144	160
1924	142	148	136	142	142
1925	146	146	153	147	143
1926	144	136	150	147	137
1927	118	112	123	117	119
1928	94	87	99	94	91
1929	108	98	125	108	108

* Data prior to 1924 were too incomplete to compute average prices for individual varieties but are sufficient to indicate that Thompson Seedless prices were higher than Muscat prices in the years 1921-1923.

Source of data:
Compiled from the data reported on completed sales to the trade of Sun-Maid and other packers by dividing money received (net, excluding cash discounts and brokerage) f.o.b. California rail shipping points by the corresponding tonnage of completed sales as reported on a net-weight basis. Sales through by-products' channels and to other packers are excluded from these averages.

Col. 1. Average of all varieties, types, grades and packs, including bleached and soda and oil dipped Thompson Seedless and Sultana.
Col. 2. Average of all grades and packs of natural Thompson Seedless, excludes bleached, soda and oil dipped.
Col. 3. Average of all grades and packs of Muscats.
Col. 4. Average of all varieties, types, grades and packs sold in the United States and Canada.
Col. 5. Average of all varieties, types, grades and packs sold in foreign markets, excluding Canada.

Figure 3. Relation Between Quantity and F.O.B. Price of Domestic Sales of California Raisins

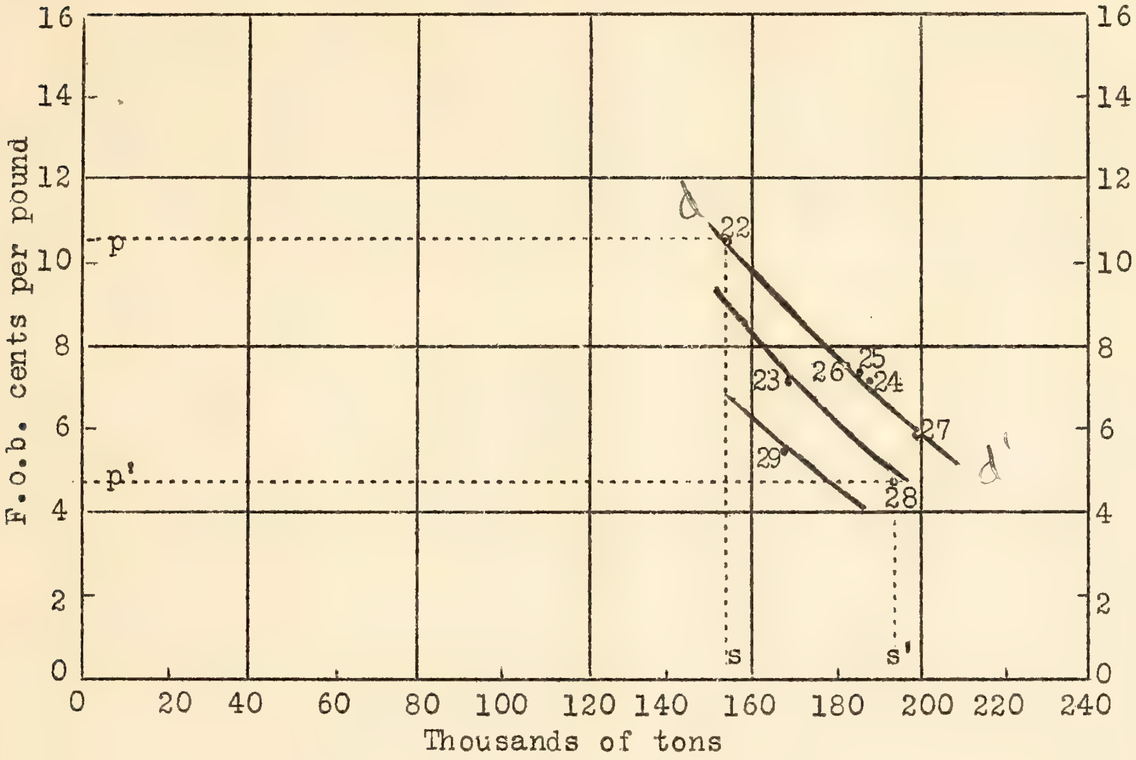
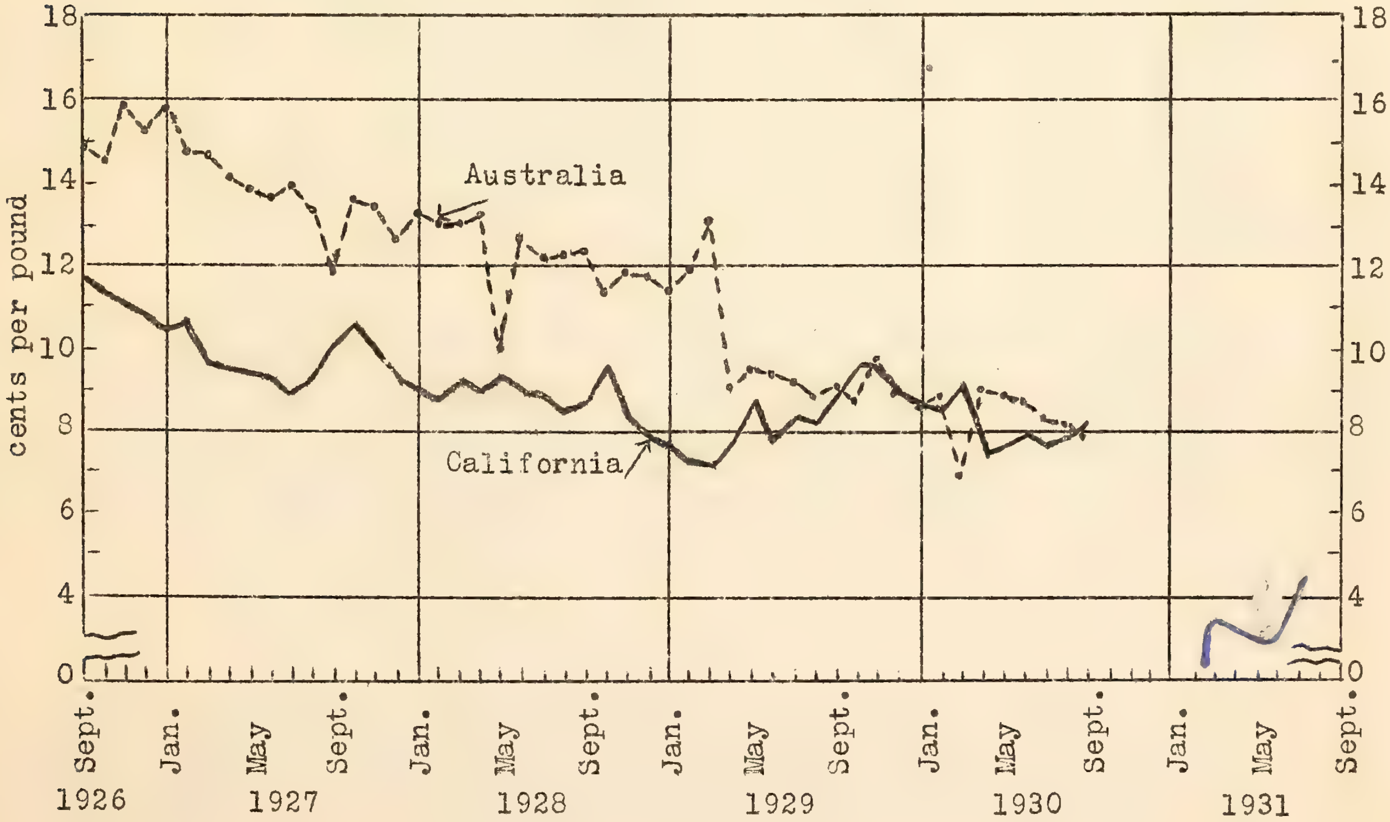


Figure 4. Monthly United Kingdom Import Values Per Pound of California and Australia Raisins, Duty Added, September 1926 to Date



year indicated. The quantity is measured along the bottom scale and the price along the scale at the side. Each dot is placed far enough to the right to correspond to the domestic consumption for a given year and high enough to correspond to the average price received. To illustrate, in 1922 about 154,000 tons of raisins were sold in the domestic market at an f.o.b. price of about 10.5 cents. The black dot marked 22 is located on the chart by the light dash c - 22 (domestic sales in 1922) and p - 22 (domestic price in 1922). All the other dots are located in a similar manner. The black dot 28, for example, was located as indicated by the light dash lines s - 28 and p - 28. About 193,000 tons of California raisins were sold in the domestic market in 1928 at about 4.7 cents a pound. In order to induce consumers to buy such a large tonnage the price obviously had to be much lower than in 1922, when only 154,000 tons were consumed.

The larger tonnages have usually sold at the lower prices so that the dots form a downward slope to the right. The curve dd' has been drawn to indicate the approximate relation between the quantities sold in the domestic market in the years 1922, 1924, 1925, 1926, and 1927, in which demand conditions affecting California's raisin markets were more favorable than in 1923, 1928, and 1929 and probably more favorable than they can be expected to average for several years considering the prospects of large crops and low prices for raisins from Australia and other foreign countries. This line indicates that the domestic demand for raisins is inelastic as it takes a relatively drastic cut in price to induce any substantial increase in the amount consumed. Large crops of raisins are, therefore, extremely serious since prices must be set very low in order to move them into consumption. The line dd' indicates the approximate tonnage of California raisins that may be sold in the domestic market at different prices in any year in which consumer purchasing power, demand, and other factors affecting the raisin market were as good as the average of the years 1922, 1924, 1925, 1926, and 1927. Under such favorable conditions, this curve indicates, for example, that at 6 cents f.o.b. California might expect to sell in the neighborhood of 195,000 tons in the domestic market.

The curve just below dd' passing through the 1923 and 1928 points indicates the quantities that might be sold under demand conditions less favorable for raisin prices than the average for the years which dd' reflects. Under such moderately adverse conditions, for example, one might expect at 6 cents to sell about 180,000 tons of raisins in the domestic market. Generally adverse business conditions apparently account to a considerable extent for the lower level of raisin prices in 1923. In 1928, however, trade uncertainty was probably the most important depressive factor.

The lowest curve passing through the 1929 point indicates approximately the tonnage one might expect to sell in years in which general business conditions were as adverse as in 1929. Under such conditions one would expect to sell only about 155,000 tons of raisins at 6.5 cents in the domestic market, but about 185,000 tons at 4 cents. Tonnage sales indicated by this curve, at half cent price intervals are shown in table 10. Similar schedules of the relation of domestic sales to f.o.b. prices can easily be compiled from each of the other two curves pictured in figure 3.

EXPORT TO FOREIGN MARKETS

Much of the increase in California raisin production and shipments since the war has been absorbed by "foreign exports", by which is meant United States exports to all countries other than Canada. Table 1 shows that the proportion exported to overseas markets rose from about 10 per cent in 1921 to over 33 per cent

Table 5. World Production of Raisins by Countries, 1921-1930

Year in which harvested	Production in short tons, dry weight							Per cent of total production					
	Total	California	Total foreign countries	Smyrna	Australia	Spain	Greece and Crete	California	Total foreign countries	Smyrna	Australia	Spain	Greece and Crete
	1	2	3	4	5	6	7	8	9	10	11	12	13
1921	219,900	145,000	74,900	37,400	9,400	12,100	16,000*	65.9	34.1	17.0	4.3	5.5	7.3
1922	324,600	237,000	87,600	41,200	15,100	15,300	16,000*	73.0	27.0	12.7	4.7	4.7	4.9
1923	383,500	290,000	93,500	44,300	20,900	17,300	11,000	75.6	24.4	11.6	5.4	4.5	2.9
1924	306,400	170,000	136,400	57,100	33,100	28,200	18,000*	55.5	44.5	18.6	10.8	9.2	5.9
1925	313,200	200,000	113,200	32,500	28,600	33,600	18,500	63.9	36.1	10.4	9.1	10.7	5.9
1926	391,700	285,000	106,700	39,200	25,100	25,900	16,500	72.8	27.2	10.0	6.4	6.6	4.2
1927	455,400	300,000	155,400	56,000	49,000	25,800	24,600	65.9	34.1	12.3	10.7	5.7	5.4
1928	395,700	268,000	127,700	49,300	27,600	25,200	25,600	67.7	32.3	12.4	7.0	6.4	6.5
1929	367,200	215,000	152,200	52,000	55,700	22,500	22,000	58.6	41.4	14.1	15.2	6.1	6.0
1930		160,000		40,000	42,600	20,000							
1931													

* Rough estimates based on crop-year exports of raisins from Greece and Crete and production condition of Greek currants.

Source of data:

Col. 1. Sum of California and total of foreign countries.

Col. 2. Compiled from California Crop Reports except 1929 and 1930 data which are preliminary.

Col. 3. Sum of production for countries for which data are given in Cols. 4, 5, 6, and 7. Persian production, although large, is not included in this table because of lack of reliable data and because its influence on California raisin prices has apparently been negligible. From 15,000 to 30,000 tons of Persian raisins have been exported annually in recent years, almost all being consumed in Russia.

Cols. 4, 6, and 7. Compiled from unofficial estimates largely from reports of the U. S. Bureau of Foreign and Domestic Commerce and of the U. S. Bureau of Agricultural Economics, except the estimates of the authors for Greece and Crete for 1921, 1922, and 1924.

Col. 5. Data 1921-1928 from Squire, E. C., Australian Raisin and Currant Industry, U. S. Dept. Com. Trade Inform. Bul. 699 p. 6.

in 1928, the peak year of post-war exports. Only about 15,000 tons (sweat box basis) moved to foreign countries in 1921, compared with over 96,000 tons in 1928.

United Kingdom, Our Chief Export Market.- In recent years the United Kingdom has been the largest market for California export raisins, absorbing over 40 per cent of our total overseas exports. This one market has imported an average of nearly 31,000 short tons (equivalent sweat-box weight) of our raisins during the last three years, or nearly one-eighth of the state's total sales tonnage (see table 6) and over one-third of the total raisin imports of the United Kingdom. Because of its importance and representativeness, special study of this foreign market has been made in an endeavor to explain what determines the price of California raisins in European markets.

Until about 1924 Smyrna was the chief source of United Kingdom raisins imports. Australian production previous to that time was small and largely consumed at home. Therefore, it affected the world market but slightly. Since then, however, California and Australia have become the two most important sources, Smyrna declining to about half its former importance. In recent years Australia has supplied about 30 per cent of United Kingdom imports, sending over two-thirds of her total raisin output to this one market.

For the purpose of analyzing the factors affecting our exports, California f.o.b. export prices have been compared with United Kingdom prices, since these are fairly representative of prices prevailing in overseas markets for foreign raisins. Moreover, it is the only country importing raisins from Australia in large quantities and, as tables 5 and 6 show, Australian raisins now constitute a substantial proportion of the world's commercial supplies. Import values per pound have been used primarily because no other more satisfactory current price series for California raisins in the United Kingdom was found.* The import values per pound also have the

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* In comparing the United Kingdom import values per pound, duty added, of raisins from different countries as shown in table 8 and figure 5, it must be remembered that each is a weighted average of all varieties, types, grades, and packs of raisins imported from the designated country. The relative importance of the different classes of raisins determining the average for each country may differ appreciably. Trade literature gives the impression that a larger proportion of United Kingdom raisin imports from Australia than from California may be of the bleached and dipped types. If this be true one would expect the price of imports from Australia to average higher, as a whole, than imports from California since, because of English preference, bleached raisins normally command a higher price than unbleached in that market. Moreover, because of the greater cost of processing bleached and dipped raisins they should in the long run bring higher prices than the natural product, but not necessarily greater returns. The possible limitations in the comparability of United Kingdom import values per pound of Australian and California raisins, suggest that the differences between the prices of raisins from these two sources may be relative, rather than absolute. Moreover, their comparability will of necessity vary if non-compensating changes in the proportion of high and low-priced raisin imports occur.

Table 6. United Kingdom Raisin Imports by Chief Countries of Origin, 1921-1929

Years beginning Sept. 1	Net weight, short tons				
	Total	United States	Australia	Smyrna	All but United States
1921	49,200	7,200	4,800	17,100	42,000
1922	70,600	19,800	9,700	14,000	50,800
1923	62,700	9,700	15,400	21,400	53,000
1924	71,000	13,800	25,700	19,900	57,200
1925	58,500	21,500	12,100	7,500	37,000
1926	74,200	25,000	20,300	13,300	49,200
1927	86,400	33,000	23,400	11,900	53,400
1928	96,800	34,400	35,900	13,000	62,400
1929	80,100	19,100	35,400	10,200	61,000
1930					
	Percentage of total				
1921	100	14.6	9.8	34.8	85.4
1922	100	28.0	13.7	19.8	72.0
1923	100	15.5	24.6	34.1	84.5
1924	100	19.4	36.2	28.0	80.6
1925	100	36.8	20.7	12.8	63.2
1926	100	33.7	27.4	17.9	66.3
1927	100	38.2	27.1	13.8	61.8
1928	100	35.5	37.1	13.4	64.5
1929	100	23.8	44.2	12.7	76.2
1930					

Source of data:

Basic data compiled from Great Britain, Parliamentary Papers, Monthly Statement of United Kingdom Trade, English hundredweights of 112 pounds converted to nearest hundred short tons.

merit of being based upon data compiled and issued regularly and promptly each month by a reliable official agency.

Prices of Australian raisins are shown by figure 5 to be fairly representative of raisins from all foreign countries. The Australian prices, therefore, have been used since they are more readily compiled than the average of all foreign countries and since the price at which each crop of Australian raisins is moving is known for several months in advance of California's harvest. It therefore serves as an important indication of about what prices California may expect to compete with in foreign markets.* In using the price of Australia's new crop of raisins in the summer, however, as an indication of the probable level of price competition in the fall, caution must be exercised in years in which the Australian crop is unusually small and the outlook for that of other countries average or greater. In such years Australian raisin prices are likely to be higher above the prices of raisins from other foreign countries than usual. For this reason, it is desirable to be particularly well informed regarding the condition of Smyrna's crop in judging whether Australia's summer price is likely to be representative of the fall harvest of raisins from north of the equator.

Foreign Competition in 1922, 1923, and 1924.- In 1922 the English import price of raisins from Smyrna, then our chief foreign competitor, was unduly high retarding her sales and enabling California with lower prices to expand its exports substantially. Although foreign production in 1923 exceeded that of 1922 but slightly, prices of foreign raisins were drastically reduced, probably because their sales had dragged so badly the preceding season. California's export prices were also drastically cut in 1923 and still further reduced in 1924. United Kingdom import prices of Australian and of other foreign raisins, however, were so low in both of these years that they undersold California's, reducing our exports both in 1923 and 1924 to considerably below the movement in 1922. A decrease in the United Kingdom preferential import duty in August, 1924, was also responsible, to a slight degree, for depressing Australian prices in that market.

Relief Measures for Australian Industry.- Inasmuch as the Australian government had actively encouraged returned soldiers to plant vineyards after the war, it took definite steps to help its raisin industry when the serious prospects of continued low prices became evident about 1924. Its first important Act, October 20, 1924, was the establishment of a Dried Fruits Export Control Board, the aim of which was to secure optimum returns for the Australian industry largely by restricting the quantity exported, by establishing a domestic price higher than the possible export level, and by consigning a portion of the domestic retention to industrial (distillery) use. By means of funds from the export levy and from contributions of the Commonwealth Government itself, the Board has also carried on a successful

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* Monthly Australian prices weighted by the quantity of California raisins imported into the United Kingdom have been used in getting an average price for our crop years beginning September first because it is the quantity of California raisins exported in any given month that presumably is most directly influenced by the foreign prices prevailing during that particular month. Such an average therefore tends to give more weight to the prices of foreign raisins with which California raisins actively compete at any particular time. Compared with an Australian price weighted by the quantities of Australian raisins imported into the United Kingdom, it gives heavier weight to Australian prices during the fall and winter months when the majority of our export sales are completed and much less weight to Australian prices in the following spring and summer when Australian exports are greatest and California's relatively the smallest.

Table 7. Production and United Kingdom Imports and Declared Import Value per Pound, Duty Added, of Australian Raisins, 1921-1929

Year of harvest or import year beginning April first	Australian production, sweat-box basis, short tons	United Kingdom imports from Australia			Declared import value per pound, duty added, cents	Exchange rate per pound Sterling, in cents
		Net packed weight, short tons	Per cent of Australian production	Per cent of United Kingdom total imports		
	1	2	3	4	5	6
1921	9,400	2,282	26	5.6	17.9	397
1922	15,100	5,023	36	7.3	20.4	452
1923	20,900	10,990	57	18.6	16.5	448
1924	33,100	21,934	72	33.7	12.6	454
1925	28,600	18,446	70	27.8	13.2	485
1926	25,100	12,950	56	20.2	14.8	486
1927	49,000	33,541	74	35.5	13.5	487
1928	27,600	14,591	57	19.0	12.1	486
1929	55,700	42,392	81	46.9	9.2	486
1930	42,600	29,400*			8.3*	486*
1931						

* Data for the six months April to September, inclusive, 1930.

Sources of data:

Col. 1. Data given to the nearest hundred tons are for crops harvested in the calendar year indicated, years 1921-1928 from Squire, E. C., Australian Raisin and Currant Industry, U. S. Dept. Com. Trade Information Bul. 699: 6, 1930. Data for 1930 are preliminary estimates.

Cols. 2, 4, & 5. Data for years beginning April first compiled from Great Britain, Parliamentary Papers, Monthly Statement of United Kingdom Trade. Conversions to cents per pound computed as follows: pounds sterling (£) per English hundredweight divided by 112, times the exchange rates in Col. 6. The preferential duties added to the declared import value per pound are for 1921, 1.46 cents; 1922, 1.66 cents; 1923, 1.65 cents; 1924, 1.36 cents; 1925, 0.6 cents. All Australian raisins have entered the United Kingdom duty free since July, 1925 and hence nothing was added to the declared import value per pound for crops years 1926 to date.

Col. 3. Based upon Col. 1 and items in Col. 2 increased by 7 per cent to convert to an approximate sweat-box equivalent of the net import weight.

Col. 6. Simple average of monthly exchange rates for years beginning April first, compiled from Federal Reserve Bulletin.

publicity campaign for about five years, stimulating the demand for Australian raisins particularly in the United Kingdom. Similar efforts by the Empire Marketing Board to create "Empire Consciousness" have also helped to increase the demand for Australian raisins in English markets.

Preference for Australian raisins in the Canadian and the United Kingdom markets has also been gained by tariff provisions admitting their raisins free or at greatly reduced rates of duty, whereas other countries (with the partial exception of Greece) pay substantial import duties. Previous to July, 1925, the Australian preference in the United Kingdom was less than half a cent per pound. At that time, however, the preference was increased to 1.5 cents, Australian raisins being admitted duty free. (See table 8.)

Foreign Competition in 1925 and 1926.- Australian and Smyrna raisin crops and exports of 1925 and 1926 were considerably smaller than in 1924, and hence they were able to raise their prices in 1925 and 1926. Probably because of the preferential duty and the activities of the Dried Fruit Control Board and the Empire Marketing Board, Australia raised her 1926 prices even higher than Smyrna's. California raisin prices in the United Kingdom, however, were lowered both years, so that the import value of her raisins, duty added, averaged nearly 2 cents a pound lower than Australia's in 1925 and over 4 cents below it in 1926. This large price differential, along with the relatively small competitive tonnage from Australia and Smyrna enabled California to substantially increase her foreign exports in 1925 and 1926.

Competition from Australia in 1927 and 1928.- Raisin production both in California and in foreign countries was large in 1927, causing United Kingdom import prices to decline. In spite of the largest raisin crop in her history, however, Australia tried to dispose of the bulk of it in the United Kingdom at a differential over California prices nearly as wide as in 1926. This helped to increase California exports.

In the face of this competition the Australian Export Control Board would probably have been forced to lower their prices in the United Kingdom in the fall of 1927 had not a severe frost on September 24 cut their 1928 crop prospects by one-half. The outlook for a short 1928 Australian crop strengthened the market of all raisins. Although Australia exported unusually large quantities of her 1927 bumper crop at high prices, at the end of the season, April 30, 1928, her London stocks were greater than end-of-season stocks had ever been before. Within the year they had risen from about 3,000 to 8,000 short tons. In addition Australian stocks at home were large. Chiefly because of this situation all our foreign competitors lowered their prices decidedly.* California, however, lowered her export prices nearly as much as her competitors, underselling them by an average of 3 cents during our 1928 crop year. As a result, Australian exports were small and California's unusually large. Australia's total sales were only equivalent to her small 1928 crop, leaving the London stocks on April 30, 1929 still as large as the year before and her inventory at home about 5,000 tons.**

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* Part of the lower average for Australian prices was due to an unusually large proportion of low grade raisins.

**The Fruit World of Australasia, Vol. 31, p. 200, May 1, 1930.

Table 8. United Kingdom Declared Import Value per Pound, Duty Added, of Raisins by Chief Countries of Origin, 1922-1929

Year beginning Sept. 1	Duty per pound		Exchange rate per £	Import value per pound				
	General	Preferential		United States	Australia	Smyrna	All but U.S.	All countries
	cents	cents	cents	cents	cents	cents	cents	cents
	1	2	3	4	5	6	7	8
1922	2.2	1.7	458.7	17.2	19.0	20.8	19.1	18.5
1923	2.0	1.6	438.1	13.7	12.9	11.6	12.3	12.5
1924	1.4	1.2	465.1	12.6	12.5	12.1	12.5	12.5
1925	1.5	0	485.6	11.5	13.2	15.1	13.4	12.7
1926	1.5	0	485.4	10.5	14.7	13.7	13.8	12.7
1927	1.5	0	487.3	9.4	12.9	11.9	12.5	11.4
1928	1.5	0	485.1	8.1	11.3	10.6	11.3	10.2
1929	1.5	0	486.6	8.8	8.8	9.7	9.7	9.5
1930	1.5	0						
1931								

Source of data:

Cols. 1 & 2. Compiled from official sources with conversions to cents per pound as follows: Pounds sterling (£) per English hundredweight divided by 112, times the exchange rates given in Col. 3. The general duty in Col. 1 is added to the import value of all countries except Greece and British possessions. The preferential duty in Col. 2 applies to imports from Australia, South Africa, and other British possessions.

Col. 3. Simple averages of monthly exchange rates for years beginning September first, compiled from the Federal Reserve Bulletin.

Cols. 4-8. The basic data from which these prices were compiled appear in the Monthly Statement of the Trade of the United Kingdom as imports in English hundredweights of 112 pounds and declared import values in English pounds sterling (£). The average prices in Col. 5 are computed by weighting the monthly United Kingdom import value per pound of Australian raisins by the quantity of California raisins imported into the United Kingdom during the corresponding months. The prices shown in Cols. 7 and 8 include the corresponding prices for Australia shown in Col. 5 weighted by the actual quantity of Australian raisins imported into the United Kingdom during the year beginning September first. The duties added for individual countries and the method of converting to cents per pound are indicated above in the footnote to Cols. 1 & 2.

Table 9. Monthly United Kingdom Import Values of California and of Australia Raisins Since September 1926
(In Cents Per Pound, Duty Added*)

Month	1926-27		1927-28		1928-29		1929-30		1930-31	
	California	Australia	California	Australia	California	Australia	California	Australia	California	Australia
	cents	cents	cents	cents	cents	cents	cents	cents	cents	cents
Sept.	11.8	14.8	10.1	11.9	8.6	12.3	8.8	9.1	8.1	7.9
Oct.	11.4	14.5	10.6	13.5	9.0	11.4	9.6	8.7		
Nov.	11.1	15.8	9.8	13.4	8.2	11.8	9.5	9.7		
Dec.	10.8	15.2	9.3	12.6	7.8	11.7	8.8	8.9		
Jan.	10.4	15.7	8.9	13.2	7.0	11.4	8.7	8.6		
Feb.	10.6	14.7	8.7	13.0	7.2	11.9	8.4	8.8		
Mar.	9.6	14.6	9.2	13.0	7.1	13.1	9.2	6.9		
Apr.	9.5	14.1	8.9	13.2	7.7	9.0	7.4	9.0		
May	9.4	13.8	9.4	10.0	8.7	9.5	7.6	8.9		
June	9.3	13.6	8.9	12.6	7.7	9.4	7.9	8.7		
July	8.8	13.9	8.8	12.1	8.3	9.2	7.5	8.3		
Aug.	9.3	13.3	8.4	12.2	8.1	8.8	7.8	8.1		
Weighted Average	10.5	13.8	9.3	12.8	8.2	9.6	8.8	8.7		
Exchange Rate	485.4	485.4	487.3	487.3	485.1	485.1	486.6	486.6		

* The basic data from which these prices were compiled appear in the Monthly Statement of the Trade of the United Kingdom as imports in English hundredweights of 112 pounds and declared import values in English pounds Sterling (£). The import value in cents per pound is computed as follows: £ per hundredweight divided by 112 times the simple average of monthly exchange rates for years beginning September first as shown in the bottom line of the table. The duty of 1.5 cents a pound was added to get the California price as given. Australian raisins have been admitted duty free since 1925. The annual prices are weighted averages.

Figure 5. California F.O.B. Export Raisin Prices and United Kingdom Import Prices Per Pound, Duty Added, 1922-1929

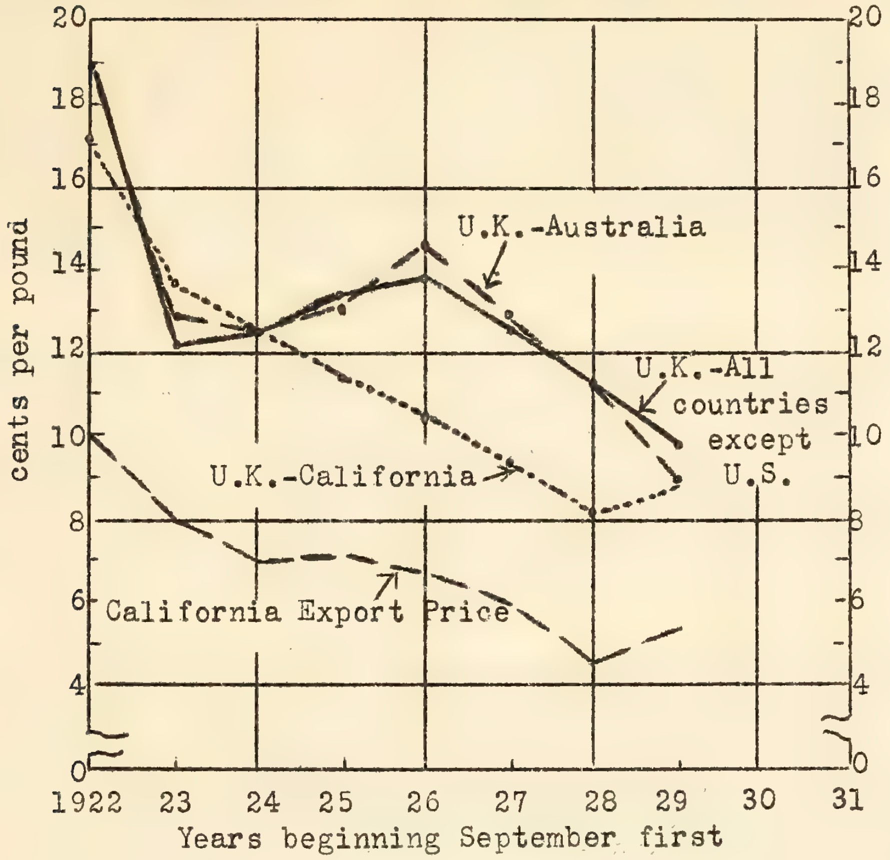
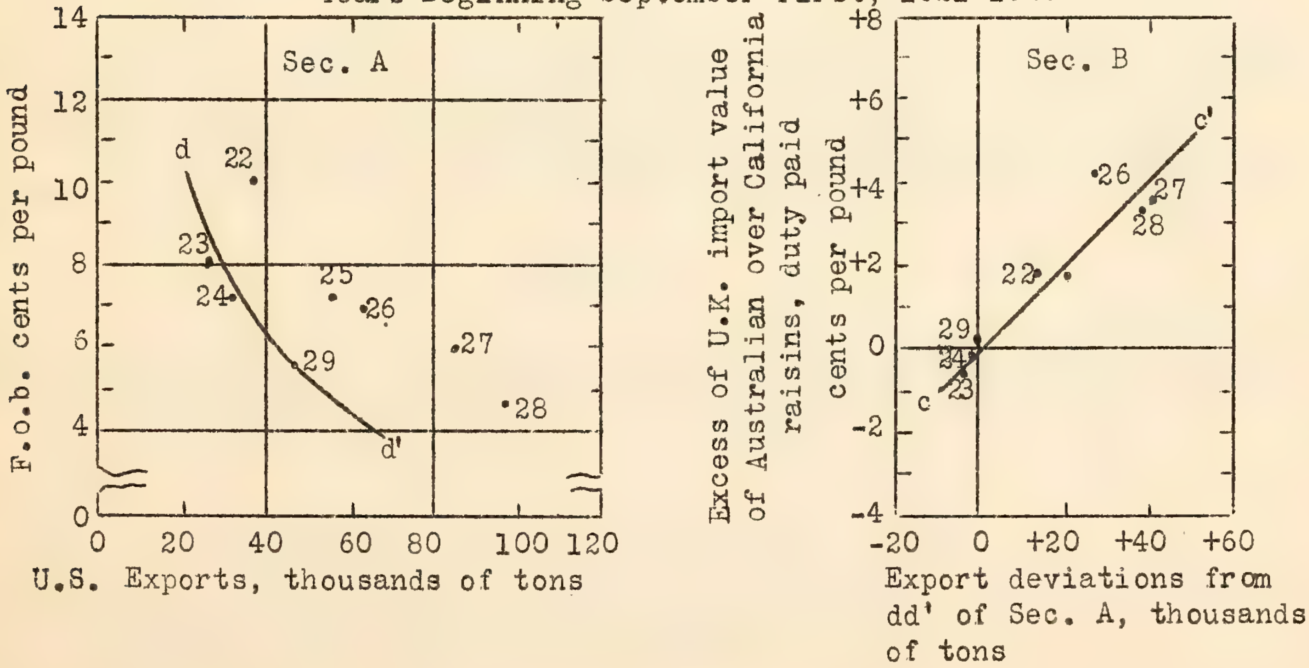


Figure 6. Relation of California Overseas Raisin Exports to (A) F.O.B. Export Prices and to (B) the Differences Between United Kingdom Import Values Per Pound of California and Australian Raisins, Duty Added.

Years Beginning September First, 1921-1929



The 1929 Decline of Australian Prices.- In addition to large unsold stocks in the United Kingdom, the 1929 Australian crop was a record one. To favor the export of such a crop, the price was dropped in March of that year about 3 cents and has remained at a low level between 8 and 9 cents ever since. (See figure 4.) However, in spite of the fact that during the year the Australian price actually averaged lower than California's, the April, 1930 stock of Australian raisins in London was about 15,000 tons, nearly twice the amount ever before experienced. Moreover, their stocks at home amounted to about 10,000 tons.* Such a large carryover has helped to keep 1930 Australian raisin prices at a low level, thereby increasing the competition California raisins are now meeting.

Relation of California Exports to Prices.- The curve dd' in figure 6 is drawn to indicate the average relation between export prices and the tonnage of California raisins exported in crop years in which the United Kingdom import prices of California** and of Australian raisins has been practically the same. The wide scatter or divergence of the points from the line dd' suggests that factors other than the California f.o.b. price have also had an important bearing on the tonnage of our raisins bought in foreign markets. Chief among these factors are the supply and price of raisins produced in foreign countries.

California has exported the greatest tonnage of raisins in those years in which the prices of foreign-producing countries have averaged higher than hers, particularly in important importing countries such as the United Kingdom. The extent of this competition has been measured in section B of figure 6, in which are plotted the differentials between the United Kingdom import prices of Australian and California raisins from figure 5 against the horizontal deviations from dd' of section A of figure 6. These price differentials have proved a good measure of foreign competition in overseas markets in recent years. As the curve cc' indicates, California exports have tended to be about 10,000 tons greater for every cent that Australia's price has exceeded ours. In the years 1923, 1924, and 1929 with little difference between Australian and California prices, competition was keen and California export sales small. The situation, however, was more favorable to California in the years 1925, 1926, 1927, and 1928, in which the Australian price averaged 2 to 4 cents above California's. As a result, California exported considerably greater quantities than indicated by curve dd' in section A.

The apparent discrepancy in 1926 was largely due to the fact that Australia's production was unusually small and her price somewhat too high to be exactly representative of foreign production and prices of raisins produced in the northern hemisphere. Had the smaller price differential between foreign raisins as a whole and California's been used in figure 5, the 1926 deviation would be decreased.

APPLICATION

Upon the basis of curves in figures 3 and 6, the schedule of prices and sales of California raisins given in table 10 has been prepared to illustrate the method of using this analysis. It shows the approximate relation between the

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* The Fruit World of Australasia, Vol. 31, p. 200, May 1, 1930.

**During the last few years the United Kingdom import price of California raisins, duty added, has been approximately 3.5 cents higher than our f.o.b.-rail export price, due to exporting costs and the English import duty.

tonnage of California raisin sales and f.o.b.-rail prices, with domestic demand conditions as adverse as indicated by the lower curve in figure 3 and also as moderately favorable as indicated by the middle curve in the same figure. The foreign sales are based on f.o.b.-rail prices with an allowance of a 3.5 cent margin to approximate the equivalent United Kingdom import value per pound, duty added, as given in column 6. Moreover, the relation shown between the price and the tonnage exported assumes the same level of United Kingdom average import values per pound, duty added, for California, Australian, and other raisins. As shown by section B of figure 6, in years in which the United Kingdom import value, duty added, of California raisins has differed from that of raisins from other countries, an allowance of about 10,000 tons should be made for each cent in the price differential.

The table indicates, for example, that 174,000 tons of California raisins might be sold in the domestic market at an f.o.b. price of 5 cents under conditions as unfavorable as in 1929. On the other hand, better conditions of demand, such as the data in column 3 are based upon, the same quantity could be sold at a price of about 6.7 cents. Our export sales at a 5 cent f.o.b.-rail price, equivalent to about an 8.5 cent United Kingdom import value, duty added, should amount to about 52,000 tons with Australia's price at the same level as ours in that market. When Australian raisins exceed our price in that market, California's exports have tended to increase about 10,000 tons as indicated in section B of figure 6.

Although the greater part of the variations that have occurred in the crop-year sales and prices of California raisins during the last nine years have been accounted for in this analysis, there are probably several other factors, mostly minor, that have exerted some influence, such as trend in demand, competition from currants and other fruits, variations in variety, type, quality, and style of packages, advance or decline in prices during the year, the lag of retail prices, changes in the general price level, and the psychological attitude of the trade as affected by facts or lack of dependable facts.

The foregoing analysis explains only what has occurred. It does not explain what would have occurred if conditions had been different from what they were. However, the analysis should give the industry a better basis than it previously had for judging the probable price at which a given supply of California raisins can be sold under conditions that are likely to exist. In using it as a partial basis for deciding what is probably the best price policy to pursue, a trained judgment that can ordinarily be acquired only as the result of close first-hand acquaintance with the business of marketing raisins, is essential, coupled, of course, with an intimate understanding of just what the current situation is and what conditions are likely to exist at any particular time in the future.

Table 10. Approximate Domestic and Foreign Sales of California Raisins Under Adverse and Moderately Favorable Demand Conditions in the Domestic Market and Under Foreign Competitive Conditions in which the United Kingdom Import Price, Duty Added, is the Same for Both Australia and California

Domestic sales			Foreign sales		
Quantity	F.o.b.-rail price per pound with demand conditions		Quantity	California price per pound with United Kingdom import price of Australian and California raisins same	
	Adverse	Moderately favorable		F.o.b.-rail price	Equivalent U.K. import price, duty added
1	2	3	4	5	6
tons	cents	cents	tons	cents	cents
187,000	4.0	5.5	66,000	4.0	7.5
180,000	4.5	6.1	58,000	4.5	8.0
174,000	5.0	6.7	52,000	5.0	8.5
168,000	5.5	7.3	47,000	5.5	9.0
162,000	6.0	8.0	42,000	6.0	9.5
156,000	6.5	8.7	38,000	6.5	10.0